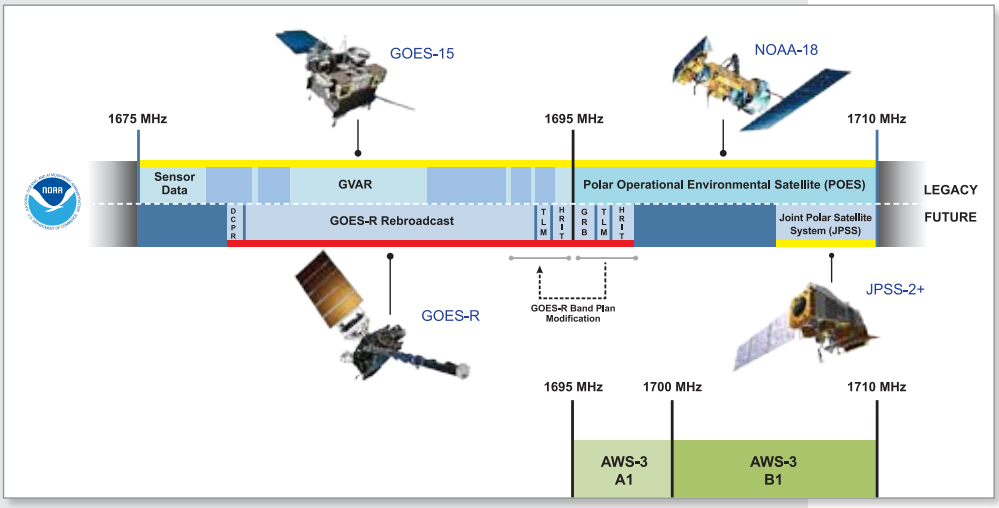
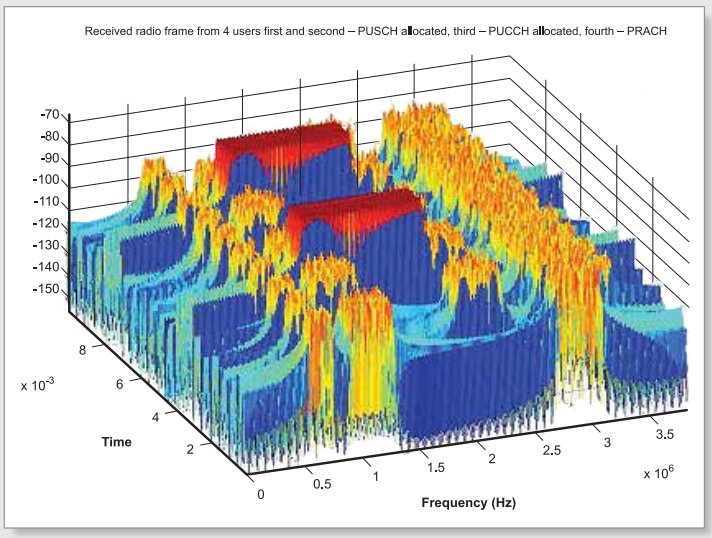
RFIMS

Radio Frequency and Interference Monitoring System



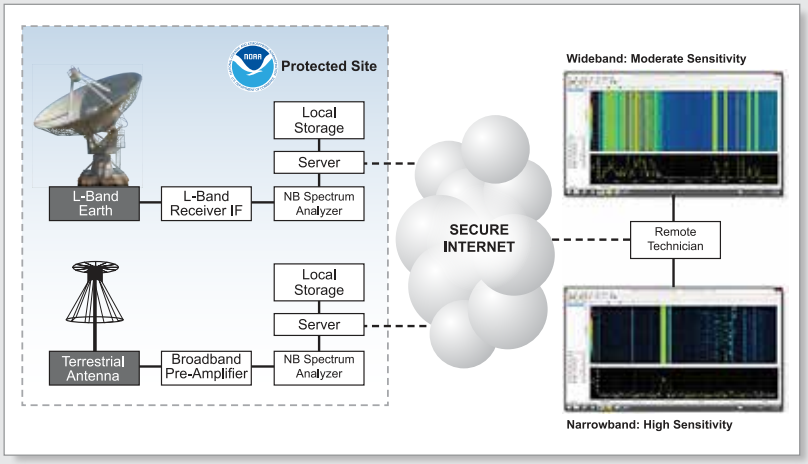
Background:

As a result of the Middle Class Tax Relief and Job Creation Act of 2012, the Department of Commerce recommended that 15 MHz (1675-1710 MHz) of frequency spectrum used by NOAA weather satellite systems be auctioned off to commercial wireless Long Term Evolution (LTE) carriers to be shared with NOAA. Effective April, 2018, wireless cell phones will operate at the same frequencies used by NOAA ground stations to receive data from weather satellites. Sixteen NOAA satellite ground stations as well as others used by the Departments of Defense and Interior were identified as requiring protection from potentially harmful radio frequency interference from cell phones once sharing is initiated.



Objective:

Design, develop, test and deploy a system for 16 NOAA ground stations (and potentially DoD and DoI ground stations), as well as a centralized station, to monitor, identify and mitigate harmful radio frequency interference from wireless carriers' LTE services where the 1695 MHz –1710 MHz band is shared between the U.S. government and wireless carriers.



Result:

The RFIMS system, once deployed, will allow commercial carriers to expand their wireless LTE systems into new territories and allow them to operate in the 1695-1710MHz frequency band without interfering with critical NOAA weather satellite operation, thereby increasing the effectiveness and efficiency of the frequency spectrum.